WHAT IS CLAIMED IS:

1. A semiconductor light emitting device comprising:

a semiconductor substrate formed from InP;

an active layer formed at the upper side of the semiconductor substrate; and

an n-type cladding layer formed from InGaAsP and a p-type cladding layer formed from InP, which are formed so as to hold the active layer therebetween,

wherein, the semiconductor light emitting device is, given that a refractive index of the n-type cladding layer is na, and a refractive index of the p-type cladding layer is nb, set so as to be the relationship of na > nb in which the refractive index na of the n-type cladding layer is higher than the refractive index nb of the p-type cladding layer, and due to the distribution of light generated by the active layer being deflected to the n-type cladding layer side, optical loss by intervalence band light absorption at the p-type cladding layer is suppressed, and high-power light output can be obtained.

2. A semiconductor light emitting device according to claim 1, wherein the semiconductor light emitting device further comprises:

a first SCH (Separate Confinement Heterostructure) layer formed from InGaAsP, which is formed between the active layer and the n-type cladding layer; and

a second SCH layer formed from InGaAsP, which is formed between the active layer and the p-type cladding layer.

3. A semiconductor light emitting device according to claim 1, wherein the active layer includes a bulk structure structured from one uniform material.

4. A semiconductor light emitting device according to claim 1, wherein the active layer includes a plural-layer MQW (Multi-quantum well) structure having plural-layer well layers and plural-layer barrier layers positioned at the both sides of the respective well layers at the plural-layer well layers.

5. A semiconductor light emitting device according to claim 2, wherein the first SCH layer includes a multilayer structure formed from a plurality of layers, and

the second SCH layer includes a multilayer structure formed from a plurality of layers.

6. A semiconductor light emitting device according to claim 5, wherein, given that a refractive index of a layer having the lowest refractive index of said plurality of layers structuring the active layer is ns, and refractive indices and thickness of said plurality of layers of the first SCH layer are respectively n1, n2, n3, ⋯, nN and t1, t2, t3, ⋯, tN at order close from the active layer and refractive indices and thickness of said plurality of layers of

the second SCH layer are respectively n1, n2, n3, ⋯, nN and t1, t2, t3, ⋯, tN at order close from the active layer,

the relationship of the thickness of the respective layers is set to be

$$t1 = t2 = t3 =, \cdots, = tN$$

the relationship of the magnitudes of the refractive indices of the respective layers is set to be the relationship:

$$ns > n1 > n2 > n3 >, \cdots, nN > na > nb$$

such that the refractive indices become smaller the further away from the active layer including the relationship that the refractive index ns of the active layer is the highest, and the refractive index na of the n-type cladding layer is higher than the refractive index nb of the p-type cladding layer, and

the refractive index differences between the layers which are adjacent to one another in said plurality of layers respectively structuring the first SCH layer and the second SCH layer are set to be the relationship:

$$ns-n1 > n1-n2 > n2-n3 >, \cdots, > nN-nb > nN-na$$

such that the refractive index differences become smaller the further toward the n-type cladding layer and the p-type cladding layer from the active layer.

7. A semiconductor light emitting device according to claim 5, wherein, given that a refractive

index of a layer having the lowest refractive index of said plurality of layers structuring the active layer is ns, the refractive indices and the thickness of said plurality of layers of the first SCH layer are respectively n1, n2, n3, ⋯, nN and t1, t2, t3, ⋯, tN at order close from the active layer and the refractive indices and the thickness of said plurality of layers of the second SCH layer are respectively n1, n2, n3, ⋯, nN and t1, t2, t3, ⋯, tN at order close from the active layer,

the relationship of the magnitudes of the refractive indices of the respective layers is set to be the relationship:

$$ns > n1 > n2 > n3 >, \cdots, > nN > na > nb$$

such that the refractive indices become smaller the further away from the active layer including the relationship that the refractive index ns of the active layer is the highest, and the refractive index na of the n-type cladding layer is higher than the refractive index nb of the p-type cladding layer,

the refractive index differences between the layers which are adjacent to one another in said plurality of layers respectively structuring the first SCH layer and the second SCH layer are set to be the relationship:

$$ns-n1 = n1-n2 = n2-n3 =, \cdots, = nN-nb$$

(where nN-nb > nN-na),

such that the refractive index differences are equal to one another, and

the relationship of the thickness of the respective layers is set to be

$t1 < t2 < t3 <, \cdots, < tN$

such that the thickness becomes larger the further away from the active layer.

8. A semiconductor light emitting device according to claim 5, wherein, given that a refractive index of a layer having the lowest refractive index of said plurality of layers structuring the active layer is ns, the refractive indices and the thickness of said plurality of layers of the first SCH layer are respectively n1, n2, n3, ⋯, nN and t1, t2, t3, ⋯, tN at order close from the active layer and the refractive indices and the thickness of said plurality of layers of the second SCH layer are respectively n1, n2, n3, ⋯, nN and t1, t2, t3, ⋯, tN at order close from the active layer,

the relationship of the magnitudes of the refractive indices of the respective layers is set to be the relationship:

$ns > n1 > n2 > n3 >, \cdots, > nN > na > nb$

such that the refractive indices become smaller the further away from the active layer including the relationship that the refractive index ns of the active layer is the highest, and the refractive index na of

the n-type cladding layer is higher than the refractive index nb of the p-type cladding layer,

the refractive index differences between the layers which are adjacent to one another in said plurality of layers respectively structuring the first SCH layer and the second SCH layer are set to be the relationship:

$$ns-n1 > n1-n2 > n2-n3 >, \cdots, > nN-nb > nN-na$$

such that refractive index differences become smaller the further away from the active layer, and

the relationship of the thickness of the respective layers is set to be:

$$t1 < t2 < t3 <, \cdots, < tN$$

such that the thickness becomes larger the further away from the active layer.

9. A semiconductor light emitting device according to claim 5, wherein, given that a refractive index of a layer having the lowest refractive index of said plurality of layers structuring the active layer is ns, and refractive indices and thickness of said plurality of layers of the first SCH layer are respectively n1, n2, n3, ⋯, nN and t1, t2, t3, ⋯, tN at order close from the active layer and refractive indices and thickness of said plurality of layers of the second SCH layer are respectively n1, n2, n3, ⋯, nN and t1, t2, t3, ⋯, tN at order close from the active layer,

the relationship of the thickness of the respective layers is set to be

$t1 = t2 = t3 =, \cdots, = tN$

the relationship of the magnitudes of the refractive indices of the respective layers is set to be the relationship:

$ns > n1 > n2 > n3 >, \cdots, nN > nb$, and

$na > nN$

such that the refractive indices become smaller the further away from the active layer including the relationship that the refractive index ns of the active layer is the highest, and the refractive index na of the n-type cladding layer is higher than the refractive index nb of the p-type cladding layer, and

the refractive index differences between the layers which are adjacent to one another in said plurality of layers respectively structuring the first SCH layer and the second SCH layer are set to be the relationship:

$ns-n1 > n1-n2 > n2-n3 >, \cdots, > n(N-1)-nN$

such that the refractive index differences become smaller the further toward the n-type cladding layer and the p-type cladding layer from the active layer.

10. A semiconductor light emitting device according to claim 5, wherein, given that a refractive index of a layer having the lowest refractive index of said plurality of layers structuring the active layer

is ns, the refractive indices and the thickness of said plurality of layers of the first SCH layer are respectively n1, n2, n3, ···, nN and t1, t2, t3, ···, tN at order close from the active layer and the refractive indices and the thickness of said plurality of layers of the second SCH layer are respectively n1, n2, n3, ···, nN and t1, t2, t3, ···, tN at order close from the active layer,

the relationship of the magnitudes of the refractive indices of the respective layers is set to be the relationship:

$ns > n1 > n2 > n3 >, \cdots, > nN > nb$, and

$na > nN$

such that the refractive indices become smaller the further away from the active layer including the relationship that the refractive index ns of the active layer is the highest, and the refractive index na of the n-type cladding layer is higher than the refractive index nb of the p-type cladding layer,

the refractive index differences between the layers which are adjacent to one another in said plurality of layers respectively structuring the first SCH layer and the second SCH layer are set to be the relationship:

$ns-n1 = n1-n2 = n2-n3 =, \cdots, = nN-nb$

such that the refractive index differences are equal to one another, and

the relationship of the thickness of the respective layers is set to be

$t1 < t2 < t3 <, \cdots, < tN$

such that the thickness becomes larger the further away from the active layer.

11. A semiconductor light emitting device according to claim 5, wherein, given that a refractive index of a layer having the lowest refractive index of said plurality of layers structuring the active layer is ns, the refractive indices and the thickness of said plurality of layers of the first SCH layer are respectively n1, n2, n3, ⋯, nN and t1, t2, t3, ⋯, tN at order close from the active layer and the refractive indices and the thickness of said plurality of layers of the second SCH layer are respectively n1, n2, n3, ⋯, nN and t1, t2, t3, ⋯, tN at order close from the active layer,

the relationship of the magnitudes of the refractive indices of the respective layers is set to be the relationship:

$ns > n1 > n2 > n3 >, \cdots, > nN > nb$, and

$na > nN$

such that the refractive indices become smaller the further away from the active layer including the relationship that the refractive index ns of the active layer is the highest, and the refractive index na of the n-type cladding layer is higher than the refractive

index nb of the p-type cladding layer,

the refractive index differences between the layers which are adjacent to one another in said plurality of layers respectively structuring the first SCH layer and the second SCH layer are set to be the relationship:

$$ns-n1 > n1-n2 > n2-n3 >, \cdots, > n(N-1)-nN$$

such that refractive index differences become smaller the further away from the active layer, and

the relationship of the thickness of the respective layers is set to be:

$$t1 < t2 < t3 <, \cdots, < tN$$

such that the thickness becomes larger the further away from the active layer.

12. A semiconductor light emitting device according to claim 2, wherein the semiconductor light emitting device is formed so as to be a buried structure.

13. A semiconductor light emitting device according to claim 12, wherein the n-type cladding layer, the first SCH layer, the active layer, the second SCH layer, and a part of the p-type cladding layer are formed to be a mesa type, and

the semiconductor light emitting device further comprises:

a first buried layer formed from p-type InP such that one surface thereof contacts the semiconductor

substrate or the n-type cladding layer at the both sides of the respective layers formed to be a mesa type; and

a second buried layer formed from n-type InP such that one surface thereof contacts the p-type cladding layer and the other surface thereof contacts the other surface of the first buried layer at the both sides of the respective layers formed to be a mesa type.

14. A semiconductor light emitting device according to claim 1, wherein the semiconductor light emitting device is formed so as to be a ridge structure.

15. A semiconductor light emitting device according to claim 14, wherein, when the semiconductor substrate is n-type, the p-type cladding layer is formed as a ridge structured portion in which the substantially central portion at the outer side thereof is heaped to the upper side, and

the semiconductor light emitting device further comprises:

a contact layer formed at the upper side of the ridge structured portion at the p-type cladding layer;

an insulating layer formed so as to open the central portion of the contact layer, and so as to cover the p-type cladding layer including the ridge structured portion; and

an electrode formed at the top portion of the

insulating layer in a state in which one portion thereof is connected to the contact layer.

16. A semiconductor light emitting device according to claim 1, wherein a bandgap wavelength of InGaAsP structuring the n-type cladding layer is less than or equal to 0.97 μm.

17. A semiconductor light emitting device according to claim 1, wherein a width of the active layer formed from InGaAsP is greater than or equal to 3.5 μm.

18. A semiconductor light emitting device according to claim 1, wherein the high-power light output is greater than or equal to 700 mW.

19. A semiconductor light emitting device according to claim 1, wherein, when the semiconductor substrate is n-type, the n-type cladding layer is formed at the lower side of the active layer, and the p-type cladding layer is formed at the upper side of the active layer.

20. A semiconductor light emitting device according to claim 1, wherein, when the semiconductor substrate is p-type, the n-type cladding layer is formed at the upper side of the active layer, and the p-type cladding layer is formed at the lower side of the active layer.